

1. Bioelectromagnetics. 1988;9(3):259-68.

Some behavioral effects of short-term exposure of rats to 2.45 GHz microwave radiation.

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Rats were tested for neurobehavioral alterations immediately after exposure to 2.45-GHz (CW) microwave radiation at 10 mW/cm² for 7 h. Behavioral tests used were locomotor activity, startle to an acoustic stimulus and acquisition and retention of a shock-motivated passive avoidance task. Both horizontal and vertical components of locomotor activity were assessed in 5-min epochs for a period of 30 min using photoelectric detectors. Microwave-exposed animals exhibited less activity than sham-exposed animals. This was most evident during the last 10-15 min of the 30-min test session. Twenty identical acoustical stimuli (8 KHz, 110 dB) were delivered to each rat at 40-s intervals. The microwave-exposed animals were less responsive to the stimuli than sham-exposed animals. Microwave exposure had no effect on the retention of a passive avoidance procedure when tested at 1 week after training. Both the locomotor activity and acoustic startle data demonstrate that, under the conditions of this experiment, microwave exposure may alter responsiveness of rats to novel environmental conditions or stimuli.

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